TPM 21069
ER 07-19-005

Major Stormwater Management Plan
for
T.P.M. 21069

Preparation Date: October 20, 2010

Prepared for:
Muchtar Sajady
10482 Mississippi Blvd.
Coon Rapids, MN. 55433
(612) 716-3617

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The selection, sizing, and preliminary design of stormwater treatment and other control measures in this plan have been prepared under the direction of the following Registered Civil Engineer and meet the requirements of the Regional Water Quality Control Board Order R9-2007-0001 and subsequent amendments.

Thomas H. Koerner 10/29/10

Thomas H. Koerner, RCE 65317 Date

County of San Diego

STORMWATER INTAKE FORM FOR DEVELOPMENT PROJECTS

This form must be completed in its entirety and accompany applications for any of the discretionary or ministerial permits and approvals referenced in Sections 67.803(c)(1) and 67.803(c)(2) of the County of San Diego Watershed Protection, Stormwater Management and Discharge Control Ordinance (WPO).

STEP 1: IDENTIFY RELEVANT PROJECT INFORMATION

Applicant Name: MUCHTAR SAJADY	Contact Information: (612) 716-3617
Project Address: JAMUL VISTAS DR., JAMUL, CA.	APN(s): 519-094-16
Permit Application Number: TPM 21069	

STEP 2: DETERMINE PRIORITY DEVELOPMENT PROJECT STATUS

WPO Section 67.802(w) defines the criteria for determining whether your project is considered a Priority Development Project (PDP). First, select the proposed project type category. Then select "Yes" or "No" for all of the categories in Table A, Priority Development Project Categories. If you answer "Yes" for any of the categories in Table A, your project is a PDP subject to review and approval of a Major Stormwater Management Plan (SWMP). If you answer "No" to all of the categories in Table A, your project is subject to review and approval of a Minor SWMP.

☑ **New Development Project:**

Projects on previously undeveloped land are Priority Development Projects if they are in one or more of the categories listed below.

☐ **Previously Developed Site:**

Projects on previously developed sites ("redevelopment projects") are Priority Development Projects if they create, add, or replace 5,000 sq. ft. or more of impervious surface and also are in one of the categories listed below.

☐ **Pollutant Generating Project:**

Projects that generate pollutants at levels greater than background levels which disturb one acre or more of land and include housing subdivisions of 10 or more dwelling units are considered Priority Development Projects.

If project is exempt please list the exemption: _____

***PROJECT WILL STILL NEED TO COMPLETE A MINOR SWMP**

If you answer "YES" for any category in Table A, please complete a Major SWMP for your project.
Instructions and an example of the form can be downloaded from:
http://www.co.san-diego.ca.us/dpw/watersheds/land_dev/susmp.html

If you answer "NO" to all of the categories in Table A, please complete a Minor SWMP for your project.
Instructions and an example of the form can be downloaded from:
http://www.sdcounty.ca.gov/dplu/docs/LUEG-SW.pdf

TABLE A:
PRIORITY DEVELOPMENT PROJECT CATEGORIES

Yes	No		
☐	☑	A	**Housing subdivisions of 10 or more dwelling units.** Examples: single-family homes, multi-family homes, condominiums, and apartments.
☐	☑	B	**Commercial - greater than one acre.** Any development other than heavy industry or residential. Examples: hospitals; laboratories and other medical facilities; educational institutions; recreational facilities; municipal facilities; commercial nurseries; multi-apartment buildings; car wash facilities; mini-malls and other business complexes; shopping malls; hotels; office buildings; public warehouses; automotive dealerships; airfields; and other light industrial facilities.
☐	☑	C	**Heavy industry - greater than one acre.** Examples: manufacturing plants, food processing plants, metal working facilities, printing plants, and fleet storage areas (bus, truck, etc.).
☐	☑	D	**Automotive repair shops.** A facility categorized in any one of Standard Industrial Classification (SIC) codes 5013, 5014, 5541, 7532-7534, or 7536-7539.
☐	☑	E	**Restaurants.** Any facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812), where the land area for development is greater than 5,000 sq. ft.. Restaurants where land development is less than 5,000 sq. ft. shall meet all SUSMP requirements except for structural treatment BMP and numeric sizing criteria requirements and hydromodification requirements.
☐	☑	F	**Hillside development greater than 5,000 square feet.** Any development that creates 5,000 sq. ft. of impervious surface located in an area with known erosive soil conditions, where development will grade on any natural slope that is 25% or greater. (1)
☑	☐	G	**Environmentally Sensitive Areas (ESAs).** All development located within or directly adjacent to or discharging directly to an ESA (where discharges from the development or redevelopment will enter receiving waters within the ESA), which either creates 2,500 sq. ft. of impervious surface on a proposed project site or increases the area of imperviousness of a proposed project site to 10% or more of its naturally occurring condition. "Directly adjacent" means situated within 200 feet of the ESA. "Discharging directly to" means outflow from a drainage conveyance system that is composed entirely of flows from the subject development or redevelopment site, and not commingled with flows from adjacent lands.(1) (2)
☐	☑	H	**Parking lots 5,000 square feet or more or with 15 or more parking spaces** and potentially exposed to urban runoff. (3)
☑	☐	I	**Street, roads, highways, and freeways.** Any paved surface ≥ 5,000 sq. ft. used for transportation of automobiles, trucks, motorcycles, and other vehicles. (3)
☐	☑	J	**Retail Gasoline Outlets (RGOs) that are:** (a) ≥ 5,000 sq. ft. or (b) projected Average Daily Traffic (ADT) ≥ 100 vehicles per day.

(1) In lieu of a Major SWMP, Ministerial Permit Applications for residential dwellings/additions on an existing legal lot answering "Yes" may be able to utilize the Minor SWMP upon approval of a county official. Please note that upon further analysis, staff may determine that a Major SWMP will be required.

(2) Counter staff will assist you in determining whether your project is located within 200 feet of an Environmentally Sensitive Area.

(3) PDP Exemptions: interior remodels, trenching and resurfacing associated with utility work, routine maintenance or repair, roof or exterior surface replacement, resurfacing and reconfiguring surface parking lots and existing roadways, new sidewalk construction, pedestrian ramps, or bike lanes on existing roads, and routine replacement of damaged pavement such as pothole repair.

STEP 3: SIGN AND DATE THE CERTIFICATION

APPLICANT CERTIFICATION: I have read and understand that the County of San Diego has adopted minimum requirements for managing urban runoff, including stormwater, from construction and land development activities. I certify that this intake form has been completed to the best of my ability and accurately reflects the project being proposed. I also understand that non-compliance with the County's WPO and Grading Ordinance may result in enforcement by the County, including fines, cease and desist orders, or other actions.

Applicant: _____ *Date:* _____

The Major Stormwater Management Plan (Major SWMP) must be completed in its entirety and accompany applications to the County for a permit or approval associated with certain types of development projects. To determine whether your project is required to submit a Major or Minor SWMP, please reference the County's Stormwater Intake Form for Development Projects.

Project Name:	SAJADY T.P.M.
Project Location:	JAMUL VISTAS DR., JAMUL, CA.
Permit Number (Land Development Projects):	TPM 21069
Work Authorization Number (**CIP only**):	N/A
Applicant:	MUCHTAR SAJADY
Applicant's Address:	10482 MISSISSIPPI BLVD., COON RAPIDS, MN. 55433
Plan Prepared By (*Leave blank if same as applicant*):	CREW ENGINEERING & SURVEYING
Preparer's Address:	5725 KEARNY VILLA RD., STE. D SAN DIEGO, CA. 92123
Date:	10/20/2010

The County of San Diego Watershed Protection, Storm Water Management, and Discharge Control Ordinance (WPO) (Ordinance No. 9926) requires all applications for a permit or approval associated with a Land Disturbance Activity to be accompanied by a Storm Water Management Plan (SWMP) (section 67.806.b). The purpose of the SWMP is to describe how the project will minimize the short and long-term impacts on receiving water quality. Projects that meet the criteria for a priority development project are required to prepare a Major SWMP.

Since the SWMP is a living document, revisions may be necessary during various stages of approval by the County. Please provide the approval information requested below.

Project Stages	Does the SWMP need revisions?		If YES, Provide Revision Date
	YES	NO	

Instructions for a Major SWMP can be downloaded at
http://www.sdcounty.ca.gov/dpw/watersheds/susmp/susmp.html

Completion of the following checklists and attachments will fulfill the requirements of a Major SWMP for the project listed above.

STEP 1

PRIORITY DEVELOPMENT PROJECT DETERMINATION

TABLE 1: IS THE PROJECT IN ANY OF THESE CATEGORIES?

Yes ☐	No ☑	**A**	**Housing subdivisions of 10 or more dwelling units.** Examples: single-family homes, multi-family homes, condominiums, and apartments.
Yes ☐	No ☑	**B**	**Commercial—greater than one acre.** Any development other than heavy industry or residential. Examples: hospitals; laboratories and other medical facilities; educational institutions; recreational facilities; municipal facilities; commercial nurseries; multi-apartment buildings; car wash facilities; mini-malls and other business complexes; shopping malls; hotels; office buildings; public warehouses; automotive dealerships; airfields; and other light industrial facilities.
Yes ☐	No ☑	**C**	**Heavy industry—greater than one acre.** Examples: manufacturing plants, food processing plants, metal working facilities, printing plants, and fleet storage areas (bus, truck, etc.).
Yes ☐	No ☑	**D**	**Automotive repair shops.** A facility categorized in any one of Standard Industrial Classification (SIC) codes 5013, 5014, 5541, 7532-7534, or 7536-7539.
Yes ☐	No ☑	**E**	**Restaurants.** Any facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812), where the land area for development is greater than 5,000 square feet. Restaurants where land development is less than 5,000 square feet shall meet all SUSMP requirements except for structural treatment BMP and numeric sizing criteria requirements and hydromodification requirements.
Yes ☐	No ☑	**F**	**Hillside development greater than 5,000 square feet.** Any development that creates 5,000 square feet of impervious surface and is located in an area with known erosive soil conditions, where the development will grade on any natural slope that is twenty-five percent or greater.
Yes ☐	No ☑	**G**	**Environmentally Sensitive Areas (ESAs).** All development located within or directly adjacent to or discharging directly to an ESA (where discharges from the development or redevelopment will enter receiving waters within the ESA), which either creates 2,500 square feet of impervious surface on a proposed project site or increases the area of imperviousness of a proposed project site to 10% or more of its naturally occurring condition. "Directly adjacent" means situated within 200 feet of the ESA. "Discharging directly to" means outflow from a drainage conveyance system that is composed entirely of flows from the subject development or redevelopment site, and not commingled with flows from adjacent lands.
Yes ☐	No ☑	**H**	**Parking lots 5,000 square feet or more** or with 15 or more parking spaces and potentially exposed to urban runoff.
Yes ☑	No ☐	**I**	**Street, roads, highways, and freeways.** Any paved surface that is 5,000 square feet or greater used for the transportation of automobiles, trucks, motorcycles, and other vehicles.
Yes ☐	No ☑	**J**	**Retail Gasoline Outlets (RGOs)** that are: (a) 5,000 square feet or more or (b) a projected Average Daily Traffic (ADT) of 100 or more vehicles per day.

To use the table, review each definition A through K. If any of the definitions match, the project is a Priority Development Project. Note some thresholds are defined by square footage of impervious area created; others by the total area of the development. Please see special requirements for previously developed sites and project exemptions on page 6 of the County SUSMP.

STEP 2

PROJECT STORMWATER QUALITY DETERMINATION

Total Project Site Area 7.99 (Acres or ft²)

Estimated amount of disturbed acreage: 2.13 (Acres or ft²)
(If >1 acre, you must also provide a WDID number from the SWRCB) WDID: _____

Complete A through C and the calculations below to determine the amount of impervious surface on your project before and after construction.

A. Total size of project site: 7.99 (Acres or ft²)

B. Total impervious area (including roof tops) before construction 0.10 (Acres or ft²)

C. Total impervious area (including roof tops) after construction 0.88 (Acres or ft²)

Calculate percent impervious before construction: B/A = 1.25 %
Calculate percent impervious after construction: C/A = 11.0 %

Please provide detailed descriptions regarding the following questions:

TABLE 2: PROJECT SPECIFIC STORMWATER ANALYSIS

1.	Please provide a brief description of the project.
	SEE "PROJECT DESCRIPTION" FOR ITEMS 1 THRU 7
2.	Describe the current and proposed zoning and land use designation.
3.	Describe the pre-project and post-project topography of the project. (Show on Plan)
4.	Describe the soil classification, permeability, erodibility, and depth to groundwater for LID and Treatment BMP consideration. (Show on Plan) If infiltration BMPs are proposed, a Geotechnical Engineer must certify infiltration BMPs in Attachment E.
5.	Describe if contaminated or hazardous soils are within the project area. (Show on Plan)
6.	Describe the existing site drainage and natural hydrologic features. (Show on Plan).
7.	Describe site features and conditions that constrain, or provide opportunities for stormwater control, such as LID features.
8.	Is this project within the environmentally sensitive areas as defined on the maps in Appendix A of the *County of San Diego Standard Urban Storm Water Mitigation Plan for Land Development and Public Improvement Projects?*
Yes	(No)
9.	Is this an emergency project?
Yes	(No)

PROJECT DESCRIPTION

Please provide a brief description of the project in the following box. Please include:

- Project Location
- Project Description
- Physical Features (Topography)
- Surrounding Land Use
- Proposed Project Land Use
- Location of dry weather flows (year-round flows in streams, or creeks) within project limits, if applicable.

The project is located on Jamul Vistas Drive in Jamul approximately one quarter mile from Skyline Truck Trail. The owners propose to subdivide the 7.99 acre parcel into 3 parcels. The property is currently vacant and undeveloped. The site has moderate to steep slopes. This is a lot sales project.

The project is located in the Otay hydrologic unit. The project is bounded by single family residences with 2 acre minimum lot sizes to the North, South and West. The site has moderate to steep slopes and is currently vacant.

The property drains generally from Northeast to Southwest via sheet flow and natural drainage swales that traverse the property. There is no dry weather flow present in any of the natural drainage swales on the property.

Within the project limits there are no 303(d) impaired receiving water or Regional Board special requirements. Also, there is no evidence of there being any contaminated or hazardous soils within the project area.

The project area consists of soil groups B and C with moderate to low infiltration rate. The project will not have slopes steeper than 1½:1. All slopes will include slope protection for construction and post-construction. The drilling of deep borings on the property on March 22, 2006 indicated that the depth to ground water in the areas of the proposed septic systems is greater than 16 feet.

CHANNELS & DRAINAGES

Complete the following checklist to determine if the project includes work in channels.

TABLE 3: PROJECT SPECIFIC STORMWATER ANALYSIS

No.	CRITERIA	YES	NO	N/A	COMMENTS
1.	Will the project include work in channels?		✓		If YES go to 2 If NO go to 13.
2.	Will the project increase velocity or volume of downstream flow?				If YES go to 6.
3.	Will the project discharge to unlined channels?				If YES go to. 6.
4.	Will the project increase potential sediment load of downstream flow?				If YES go to 6.
5.	Will the project encroach, cross, realign, or cause other hydraulic changes to a stream that may affect downstream channel stability?				If YES go to 8.
6.	Review channel lining materials and design for stream bank erosion.				Continue to 7.
7.	Consider channel erosion control measures within the project limits as well as downstream. Consider scour velocity.				Continue to 8.
8.	Include, where appropriate, energy dissipation devices at culverts.				Continue to 9.
9.	Ensure all transitions between culvert outlets/headwalls/wingwalls and channels are smooth to reduce turbulence and scour.				Continue to 10.
10.	Include, if appropriate, detention facilities to reduce peak discharges.				Continue to 11.
11.	"Hardening" natural downstream areas to prevent erosion is not an acceptable technique for protecting channel slopes, unless pre-development conditions are determined to be so erosive that hardening would be required even in the absence of the proposed development.				Continue to 12.
12.	Provide other design principles that are comparable and equally effective.				Continue to 13.
13.	End	✓			

TEMPORARY CONSTRUCTION BMPS

Please check the construction BMPs that may be implemented during construction of the project. The applicant will be responsible for the placement and maintenance of the BMPs incorporated into the final project design.

- [x] Silt Fence
- [x] Fiber Rolls
- [x] Street Sweeping and Vacuuming
- [ ] Storm Drain Inlet Protection
- [x] Stockpile Management
- [x] Solid Waste Management
- [x] Stabilized Construction Entrance/Exit
- [ ] Dewatering Operations
- [ ] Vehicle and Equipment Maintenance
- [ ] Desilting Basin
- [x] Gravel Bag Berm
- [ ] Sandbag Barrier
- [x] Material Delivery and Storage
- [x] Spill Prevention and Control
- [x] Concrete Waste Management
- [x] Water Conservation Practices
- [x] Paving and Grinding Operations

- [x] Any minor slopes created incidental to construction and not subject to a major or minor grading permit shall be protected by covering with plastic or tarp prior to a rain event, and shall have vegetative cover reestablished within 180 days of completion of the slope and prior to final building approval.

EXCEPTIONAL THREAT TO WATER QUALITY DETERMINATION

Complete the checklist below to determine if a proposed project will pose an "exceptional threat to water quality," and therefore require Advanced Treatment Best Management Practices during the construction phase.

TABLE 4: EXCEPTIONAL THREAT TO WATER QUALITY DETERMINATION

No.	CRITERIA	YES	NO	INFORMATION
1.	Is all or part of the proposed project site within 200 feet of waters named on the Clean Water Act (CWA) Section 303(d) list of Water Quality Limited Segments as impaired for sedimentation and/or turbidity? Current 303d list may be obtained from the following site: http://www.swrcb.ca.gov/tmdl/docs/303dlists2006/approved/r9_06_303d_reqtmdls.pdf		✓	If YES, continue to 2. If NO, go to 5.
2.	Will the project disturb more than 5 acres, including all phases of the development?			If YES, continue to 3. If NO, go to 5.
3.	Will the project disturb slopes that are steeper than 4:1 (horizontal: vertical) with at least 10 feet of relief, and that drain toward the 303(d) listed receiving water for sedimentation and/or turbidity?			If YES, continue to 4. If NO, go to 5.
4.	Will the project disturb soils with a predominance of USDA-NRCS Erosion factors k_f greater than or equal to 0.4?			If YES, continue to 6. If NO, go to 5.
5.	Project is not required to use Advanced Treatment BMPs.	✓		Document for Project Files by referencing this checklist.
6.	Project poses an "exceptional threat to water quality" and is required to use Advanced Treatment BMPs.			Advanced Treatment BMPs must be consistent with WPO section 67.811(b)(20)(D) performance criteria

Exemption potentially available for projects that require advanced treatment: Project proponent may perform a Revised Universal Soil Loss Equation, Version 2 (RUSLE 2), Modified Universal Soil Loss Equation (MUSLE), or similar analysis that shows to the County official's satisfaction that advanced treatment is not required

STEP 3

HYDROMODIFICATION DETERMINATION

The following questions provide a guide to collecting information relevant to hydromodification management issues.

TABLE 5: HYDROMODIFICATION DETERMINATION

	QUESTIONS	YES	NO	Information
1.	Will the proposed project disturb 50 or more acres of land? (Including all phases of development)		✓	If YES, continue to 2. If NO, go to 6.
2.	Would the project site discharge directly into channels that are concrete-lined or significantly hardened such as with rip-rap, sackcrete, etc, downstream to their outfall into bays or the ocean?			If NO, continue to 3. If YES, go to 6.
3.	Would the project site discharge directly into underground storm drains discharging directly to bays or the ocean?			If NO, continue to 4. If YES, go to 6.
4.	Would the project site discharge directly to a channel (lined or un-lined) and the combined impervious surfaces downstream from the project site to discharge at the ocean or bay are 70% or greater?			If NO, continue to 5. If YES, go to 6.
5.	Project is required to manage hydromodification impacts.			Hydromodification Management Required as described in Section 67.812 b(4) of the WPO.
6.	Project is not required to manage hydromodification impacts.	✓		Hydromodification Exempt. Keep on file.

An exemption is potentially available for projects that are required (No. 5. in Table 5 above) to manage hydromodification impacts: The project proponent may conduct an independent geomorphic study to determine the project's full hydromodification impact. The study must incorporate sediment transport modeling across the range of geomorphically-significant flows and demonstrate to the County's satisfaction that the project flows and sediment reductions will not detrimentally affect the receiving water to qualify for the exemption.

STEP 4

POLLUTANTS OF CONCERN DETERMINATION

WATERSHED

Please check the watershed(s) for the project.

☐ San Juan 901	☐ Santa Margarita 902	☐ San Luis Rey 903	☐ Carlsbad 904
☐ San Dieguito 905	☐ Penasquitos 906	☐ San Diego 907	☐ Sweetwater 909
☑ Otay 910	☐ Tijuana 911	☐ Whitewater 719	☐ Clark 720
☐ West Salton 721	☐ Anza Borrego 722	☐ Imperial 723	

http://www.waterboards.ca.gov/sandiego/water_issues/programs/basin_plan/index.shtml

HYDROLOGIC SUB-AREA NAME AND NUMBER(S)

Number	Name
910.33	JAMUL

http://www.waterboards.ca.gov/sandiego/water_issues/programs/basin_plan/index.shtml

SURFACE WATERS that each project discharge point proposes to discharge to. List the impairments identified in Table 7.

SURFACE WATERS (river, creek, stream, etc.)	Hydrologic Unit Basin Number	Impairment(s) listed [303(d) listed waters or waters with established TMDLs]	Distance to Project
UPPER OTAY RESERVOIR	910.33	N/A	

http://www.waterboards.ca.gov/water_issues/programs/tmdl/docs/303dlists2006/epa/r9_06_303d_reqtmdls.pdf

GROUND WATERS

Ground Waters	Hydrologic Unit Basin Number	MUN	AGR	IND	PROC	GWR	FRESH	POW	REC1	REC2	BIOL	WARM	COLD	WILD	RARE	SPWN
	910.33	●	●	●												

http://www.waterboards.ca.gov/sandiego/water_issues/programs/basin_plan/index.shtml

+ Excepted from Municipal ● Existing Beneficial Use ○ Potential Beneficial Use

PROJECT ANTICIPATED AND POTENTIAL POLLUTANTS

Using Table 6, identify pollutants that are anticipated to be generated from the proposed priority project categories. Pollutants associated with any hazardous material sites that have been remediated or are not threatened by the proposed project are not considered a pollutant of concern.

TABLE 6: ANTICIPATED AND POTENTIAL POLLUTANTS GENERATED BY LAND USE TYPE

	General Pollutant Categories								
PDP Categories	Sediments	Nutrients	Heavy Metals	Organic Compounds	Trash & Debris	Oxygen Demanding Substances	Oil & Grease	Bacteria & Viruses	Pesticides
Detached Residential Development	X	X			X	X	X	X	X
Attached Residential Development	X	X			X	P(1)	P(2)	P	X
Commercial Development 1 acre or greater	P(1)	P(1)		P(2)	X	P(5)	X	P(3)	P(5)
Heavy industry /industrial development	X		X	X	X	X	X		
Automotive Repair Shops			X	X(4)(5)	X		X		
Restaurants					X	X	X	X	
Hillside Development >5,000 ft^2	X	X			X	X	X		X
Parking Lots	P(1)	P(1)	X		X	P(1)	X		P(1)
Retail Gasoline Outlets			X	X	X	X	X		
Streets, Highways & Freeways	X	P(1)	X	X(4)	X	P(5)	X		

X = anticipated
P = potential
(1) A potential pollutant if landscaping exists on-site.
(2) A potential pollutant if the project includes uncovered parking areas.
(3) A potential pollutant if land use involves food or animal waste products.
(4) Including petroleum hydrocarbons.
(5) Including solvents.

PROJECT POLLUTANTS OF CONCERN SUMMARY TABLE

Please summarize the identified project pollutant of concern by checking the appropriate boxes in the table below and list any surface water impairments identified. Pollutants anticipated to be generated by the project, which are also causing impairment of receiving waters, shall be considered the primary pollutants of concern. For projects where no primary pollutants of concern exist, those pollutants identified as anticipated shall be considered secondary pollutants of concern.

TABLE 7: PROJECT POLLUTANTS OF CONCERN

Pollutant Category	Anticipated (X)	Potential (P)	Surface Water Impairments
Sediments	✓		N/A
Nutrients	✓		
Heavy Metals	✓		
Organic Compounds	✓		
Trash & Debris	✓		
Oxygen Demanding Substances	✓		
Oil & Grease	✓		
Bacteria & Viruses	✓		
Pesticides	✓		

STEP 5

LID AND SITE DESIGN STRATEGIES

Each numbered item below is a Low Impact Development (LID) requirement of the WPO. Please check the box(s) under each number that best describes the LID BMP(s) and Site Design Strategies selected for this project.

TABLE 8: LID AND SITE DESIGN

1. Conserve natural Areas, Soils, and Vegetation
☑ Preserve well draining soils (Type A or B)
☑ Preserve Significant Trees
☐ Preserve critical (or problematic) areas such as floodplains, steep slopes, wetlands, and areas with erosive or unstable soil conditions
☐ Other. Description:
2. Minimize Disturbance to Natural Drainages
☑ Set-back development envelope from drainages
☐ Restrict heavy construction equipment access to planned green/open space areas
☐ Other. Description:
3. Minimize and Disconnect Impervious Surfaces (see 5)
☐ Clustered Lot Design
☑ Items checked in 5?
☐ Other. Description:
4. Minimize Soil Compaction
☑ Restrict heavy construction equipment access to planned green/open space areas
☑ Re-till soils compacted by construction vehicles/equipment
☑ Collect & re-use upper soil layers of development site containing organic Materials
☐ Other. Description:
5. Drain Runoff from Impervious Surfaces to Pervious Areas
LID Street & Road Design
☐ Curb-cuts to landscaping
☐ Rural Swales
☐ Concave Median
☐ Cul-de-sac Landscaping Design
☑ Other. Description: BIORETENTION SWALE
LID Parking Lot Design N/A
☐ Permeable Pavements

☐ Curb-cuts to landscaping
☐ Other. Description:
LID Driveway, Sidewalk, Bike-path Design
☐ Permeable Pavements
☑ Pitch pavements toward landscaping & natural vegetation
☐ Other. Description:
LID Building Design
☐ Cisterns & Rain Barrels
☑ Downspout to swale
☐ Vegetated Roofs
☐ Other. Description:
LID Landscaping Design
☐ Soil Amendments
☑ Reuse of Native Soils
☑ Smart Irrigation Systems
☐ Street Trees
☐ Other. Description:
6. Minimize erosion from slopes
☑ Disturb existing slopes only when necessary
☑ Minimize cut and fill areas to reduce slope lengths
☐ Incorporate retaining walls to reduce steepness of slopes or to shorten slopes
☐ Provide benches or terraces on high cut and fill slopes to reduce concentration of flows
☐ Rounding and shaping slopes to reduce concentrated flow
☐ Collect concentrated flows in stabilized drains and channels
☐ Other. Description:

STEP 6

SOURCE CONTROL

Please complete the checklist on the following pages to determine Source Control BMPs. Below is instruction on how to use the checklist. (Also see instructions on page 40 of the *SUSMP)*

1. Review Column 1 and identify which of these potential sources of stormwater pollutants apply to your site. Check each box that applies.

2. Review Column 2 and incorporate all of the corresponding applicable BMPs in your Source Control Exhibit in Attachment B.

3. Review Columns 3 and 4 and incorporate all of the corresponding applicable permanent controls and operational BMPs in a table in your Project-Specific SUSMP.

Describe your specific BMPs in an accompanying narrative, and explain any special conditions or situations that required omitting BMPs or substituting alternatives.

SEE TABLE 9

Use the format in Table 9 below to summarize the project Source Control BMPs. Incorporate all identified Source Control BMPs in your Source Control Exhibit in Attachment B.

TABLE 9: PROJECT SOURCE CONTROL BMPS

Potential source of runoff pollutants	*Permanent source control BMPs*	*Operational source control BMPs*
LANDSCAPE / OUTDOOR PESTICIDE USE	Preserve existing native trees, shrubs, and ground cover to the maximum extent possible.	Maintain landscaping using minimum or no pesticides.
		Provide IPM information to new owners, lessees and operators.
	Design landscaping to minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution.	
	Consider using pest-resistant plants, especially adjacent to hardscape.	
	To insure successful establishment, select plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions.	
ROOFING, GUTTERS AND TRIM		Avoid roofing, gutters, and trim made of copper or other unprotected metals that may leach into runoff.

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs		
1 **Potential Sources of Runoff Pollutants**	**2** **Permanent Controls—Show on Source Control Exhibit, Attachment B**	**3** **Permanent Controls—List in SUSMP Table and Narrative**	**4** **Operational BMPs—Include in SUSMP Table and Narrative**
☐ **A.** On-site storm drain inlets N/A	☐ Locations of inlets.	☐ Mark all inlets with the words "No Dumping! Flows to Bay" or similar.	☐ Maintain and periodically repaint or replace inlet markings. ☐ Provide stormwater pollution prevention information to new site owners, lessees, or operators. ☐ See applicable operational BMPs in Fact Sheet SC-44, "Drainage System Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com ☐ Include the following in lease agreements: "Tenant shall not allow anyone to discharge anything to storm drains or to store or deposit materials so as to create a potential discharge to storm drains."
☐ **B.** Interior floor drains and elevator shaft sump pumps N/A		☐ State that interior floor drains and elevator shaft sump pumps will be plumbed to sanitary sewer.	☐ Inspect and maintain drains to prevent blockages and overflow.
☐ **C.** Interior parking garages N/A		☐ State that parking garage floor drains will be plumbed to the sanitary sewer.	☐ Inspect and maintain drains to prevent blockages and overflow.

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs		
1 **Potential Sources of Runoff Pollutants**	2 **Permanent Controls—Show on Source Control Exhibit, Attachment B**	3 **Permanent Controls—List in SUSMP Table and Narrative**	4 **Operational BMPs—Include in SUSMP Table and Narrative**
☐ **D1.** Need for future indoor & structural pest control N/A		☐ Note building design features that discourage entry of pests.	☐ Provide Integrated Pest Management information to owners, lessees, and operators.

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs		
1 **Potential Sources of Runoff Pollutants**	2 **Permanent Controls—Show on Source Control Exhibit, Attachment B**	3 **Permanent Controls—List in SUSMP Table and Narrative**	4 **Operational BMPs—Include in SUSMP Table and Narrative**
☑ **D2.** Landscape/ Outdoor Pesticide Use Note: Should be consistent with project landscape plan (if applicable).	☑ Show locations of native trees or areas of shrubs and ground cover to be undisturbed and retained. ☐ Show self-retaining landscape areas, if any. ☑ Show stormwater treatment facilities.	State that final landscape plans will accomplish all of the following: ☑ Preserve existing native trees, shrubs, and ground cover to the maximum extent possible. ☑ Design landscaping to minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution. ☐ Where landscaped areas are used to retain or detain stormwater, specify plants that are tolerant of saturated soil conditions. ☑ Consider using pest-resistant plants, especially adjacent to hardscape. ☑ To insure successful establishment, select plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions.	☑ Maintain landscaping using minimum or no pesticides. ☐ See applicable operational BMPs in Fact Sheet SC-41, "Building and Grounds Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com ☑ Provide IPM information to new owners, lessees and operators.

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs		
1 **Potential Sources of Runoff Pollutants**	2 **Permanent Controls—Show on Source Control Exhibit, Attachment B**	3 **Permanent Controls—List in SUSMP Table and Narrative**	4 **Operational BMPs—Include in SUSMP Table and Narrative**
☐ **E.** Pools, spas, ponds, decorative fountains, and other water features. N/A	☐ Show location of water feature and a sanitary sewer cleanout in an accessible area within 10 feet.	☐ If the local municipality requires pools to be plumbed to the sanitary sewer, place a note on the plans and state in the narrative that this connection will be made according to local requirements.	☐ See applicable operational BMPs in Fact Sheet SC-72, "Fountain and Pool Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com
☐ **F.** Food service N/A	☐ For restaurants, grocery stores, and other food service operations, show location (indoors or in a covered area outdoors) of a floor sink or other area for cleaning floor mats, containers, and equipment. ☐ On the drawing, show a note that this drain will be connected to a grease interceptor before discharging to the sanitary sewer.	☐ Describe the location and features of the designated cleaning area. ☐ Describe the items to be cleaned in this facility and how it has been sized to insure that the largest items can be accommodated.	☐

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs		
1 **Potential Sources of Runoff Pollutants**	2 **Permanent Controls—Show on Source Control Exhibit, Attachment B**	3 **Permanent Controls—List in SUSMP Table and Narrative**	4 **Operational BMPs—Include in SUSMP Table and Narrative**
❑ **G.** Refuse areas N/A	❑ Show where site refuse and recycled materials will be handled and stored for pickup. See local municipal requirements for sizes and other details of refuse areas. ❑ If dumpsters or other receptacles are outdoors, show how the designated area will be covered, graded, and paved to prevent run-on and show locations of berms to prevent runoff from the area. ❑ Any drains from dumpsters, compactors, and tallow bin areas shall be connected to a grease removal device before discharge to sanitary sewer.	❑ State how site refuse will be handled and provide supporting detail to what is shown on plans. ❑ State that signs will be posted on or near dumpsters with the words "Do not dump hazardous materials here" or similar.	❑ State how the following will be implemented: Provide adequate number of receptacles. Inspect receptacles regularly; repair or replace leaky receptacles. Keep receptacles covered. Prohibit/prevent dumping of liquid or hazardous wastes. Post "no hazardous materials" signs. Inspect and pick up litter daily and clean up spills immediately. Keep spill control materials available on-site. See Fact Sheet SC-34, "Waste Handling and Disposal" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com
❑ **H.** Industrial processes. N/A	❑ Show process area.	❑ If industrial processes are to be located on site, state: "All process activities to be performed indoors. No processes to drain to exterior or to storm drain system."	❑ See Fact Sheet SC-10, "Non-Stormwater Discharges" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs		
1 **Potential Sources of Runoff Pollutants**	**2** **Permanent Controls—Show on Source Control Exhibit, Attachment B**	**3** **Permanent Controls—List in SUSMP Table and Narrative**	**4** **Operational BMPs—Include in SUSMP Table and Narrative**
☐ I. Outdoor storage of equipment or materials. (See rows J and K for source control measures for vehicle cleaning, repair, and maintenance.) N/A	☐ Show any outdoor storage areas, including how materials will be covered. Show how areas will be graded and bermed to prevent run-on or run-off from area. ☐ Storage of non-hazardous liquids shall be covered by a roof and/or drain to the sanitary sewer system, and be contained by berms, dikes, liners, or vaults. ☐ Storage of hazardous materials and wastes must be in compliance with the local hazardous materials ordinance and a Hazardous Materials Management Plan for the site.	☐ Include a detailed description of materials to be stored, storage areas, and structural features to prevent pollutants from entering storm drains. Where appropriate, reference documentation of compliance with the requirements of local Hazardous Materials Programs for: ▪ Hazardous Waste Generation ▪ Hazardous Materials Release Response and Inventory ▪ California Accidental Release (CalARP) ▪ Aboveground Storage Tank ▪ Uniform Fire Code Article 80 Section 103(b) & (c) 1991 ▪ Underground Storage Tank	☐ See the Fact Sheets SC-31, "Outdoor Liquid Container Storage" and SC-33, "Outdoor Storage of Raw Materials " in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com

❑ **J.** Vehicle and Equipment Cleaning N/A	❑ Show on drawings as appropriate: (1) Commercial/industrial facilities having vehicle /equipment cleaning needs shall either provide a covered, bermed area for washing activities or discourage vehicle/equipment washing by removing hose bibs and installing signs prohibiting such uses. (2) Multi-dwelling complexes shall have a paved, bermed, and covered car wash area (unless car washing is prohibited on-site and hoses are provided with an automatic shut-off to discourage such use). (3) Washing areas for cars, vehicles, and equipment shall be paved, designed to prevent run-on to or runoff from the area, and plumbed to drain to the sanitary sewer. (4) Commercial car wash facilities shall be designed such that no runoff from the facility is discharged to the storm drain system. Wastewater from the facility shall discharge to the sanitary sewer, or a wastewater reclamation system shall be installed.	❑ If a car wash area is not provided, describe measures taken to discourage on-site car washing and explain how these will be enforced.	Describe operational measures to implement the following (if applicable): ❑ Washwater from vehicle and equipment washing operations shall not be discharged to the storm drain system. ❑ Car dealerships and similar may rinse cars with water only. ❑ See Fact Sheet SC-21, "Vehicle and Equipment Cleaning," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com

❑ **K.** Vehicle/Equipment Repair and Maintenance N/A	❑ Accommodate all vehicle equipment repair and maintenance indoors. Or designate an outdoor work area and design the area to prevent run-on and runoff of stormwater. ❑ Show secondary containment for exterior work areas where motor oil, brake fluid, gasoline, diesel fuel, radiator fluid, acid-containing batteries or other hazardous materials or hazardous wastes are used or stored. Drains shall not be installed within the secondary containment areas. ❑ Add a note on the plans that states either (1) there are no floor drains, or (2) floor drains are connected to wastewater pretreatment systems prior to discharge to the sanitary sewer and an industrial waste discharge permit will be obtained.	❑ State that no vehicle repair or maintenance will be done outdoors, or else describe the required features of the outdoor work area. ❑ State that there are no floor drains or if there are floor drains, note the agency from which an industrial waste discharge permit will be obtained and that the design meets that agency's requirements. ❑ State that there are no tanks, containers or sinks to be used for parts cleaning or rinsing or, if there are, note the agency from which an industrial waste discharge permit will be obtained and that the design meets that agency's requirements.	In the SUSMP report, note that all of the following restrictions apply to use the site: ❑ No person shall dispose of, nor permit the disposal, directly or indirectly of vehicle fluids, hazardous materials, or rinsewater from parts cleaning into storm drains. ❑ No vehicle fluid removal shall be performed outside a building, nor on asphalt or ground surfaces, whether inside or outside a building, except in such a manner as to ensure that any spilled fluid will be in an area of secondary containment. Leaking vehicle fluids shall be contained or drained from the vehicle immediately. ❑ No person shall leave unattended drip parts or other open containers containing vehicle fluid, unless such containers are in use or in an area of secondary containment.

☐ **L. Fuel Dispensing Areas** N/A	☐ **Fueling areas[1] shall have impermeable floors (i.e., portland cement concrete or equivalent smooth impervious surface) that are: a) graded at the minimum slope necessary to prevent ponding; and b) separated from the rest of the site by a grade break that prevents run-on of stormwater to the maximum extent practicable.** ☐ **Fueling areas shall be covered by a canopy that extends a minimum of ten feet in each direction from each pump. [Alternative: The fueling area must be covered and the cover's minimum dimensions must be equal to or greater than the area within the grade break or fuel dispensing area[1].] The canopy [or cover] shall not drain onto the fueling area.**		☐ **The property owner shall dry sweep the fueling area routinely.** ☐ **See the Business Guide Sheet, "Automotive Service—Service Stations" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com**

[1] The fueling area shall be defined as the area extending a minimum of 6.5 feet from the corner of each fuel dispenser or the length at which the hose and nozzle assembly may be operated plus a minimum of one foot, whichever is greater.

☐ **M. Loading Docks** N/A	☐ Show a preliminary design for the loading dock area, including roofing and drainage. Loading docks shall be covered and/or graded to minimize run-on to and runoff from the loading area. Roof downspouts shall be positioned to direct stormwater away from the loading area. Water from loading dock areas should be drained to the sanitary sewer where feasible. Direct connections to storm drains from depressed loading docks are prohibited. Loading dock areas draining directly to the sanitary sewer shall ☐ be equipped with a spill control valve or equivalent device, which shall be kept closed during periods of operation. Provide a roof overhang over the loading area or install door skirts (cowling) at each bay that enclose the end of the trailer. ☐		☐ Move loaded and unloaded items indoors as soon as possible. ☐ See Fact Sheet SC-30, "Outdoor Loading and Unloading," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com
☐ **N. Fire Sprinkler Test Water** N/A		☐ Provide a means to drain fire sprinkler test water to the sanitary sewer.	☐ See the note in Fact Sheet SC-41, "Building and Grounds Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com

O. Miscellaneous Drain or Wash Water ☐ Boiler drain lines ☐ Condensate drain lines ☐ Rooftop equipment ☐ Drainage sumps ☑ Roofing, gutters, and trim.		☐ Boiler drain lines shall be directly or indirectly connected to the sanitary sewer system and may not discharge to the storm drain system. ☐ Condensate drain lines may discharge to landscaped areas if the flow is small enough that runoff will not occur. Condensate drain lines may not discharge to the storm drain system. ☐ Rooftop mounted equipment with potential to produce pollutants shall be roofed and/or have secondary containment. ☐ Any drainage sumps on-site shall feature a sediment sump to reduce the quantity of sediment in pumped water. ☑ Avoid roofing, gutters, and trim made of copper or other unprotected metals that may leach into runoff.	
☐ **P.** Plazas, sidewalks, and parking lots. N/A			☐ Plazas, sidewalks, and parking lots shall be swept regularly to prevent the accumulation of litter and debris. Debris from pressure washing shall be collected to prevent entry into the storm drain system. Washwater containing any cleaning agent or degreaser shall be collected and discharged to the sanitary sewer and not discharged to a storm drain.

STEP 7

LID AND TREATMENT CONTROL SELECTION

A treatment control BMP and/or LID facility must be selected to treat the project pollutants of concern identified in Table 7 "Project Pollutants of Concern". A treatment control facility with a high or medium pollutant removal efficiency for the project's most significant pollutant of concern shall be selected. It is recommended to use the design procedure in Chapter 4 of the SUSMP to meet NPDES permit LID requirements, treatment requirements, and flow control requirements. If your project does not utilize this approach, the project will need to demonstrate compliance with LID, treatment and flow control requirements. Review Chapter 2 "Selection of Stormwater Treatment Facilities" in the SUSMP to assist in determining the appropriate treatment facility for your project.

Will this project be utilizing the unified LID design procedure as described in Chapter 4 of the Local SUSMP? *(If yes, please document in Attachment D following the steps in Chapter 4 of the County SUSMP)*	
(Yes)	No
If this project is not utilizing the unified LID design procedure, please describe how the alternative treatment facilities will comply with applicable LID criteria, stormwater treatment criteria, and hydromodification management criteria.	

➢ Indicate the project pollutants of concern (POCs) from Table 7 in Column 2 below.

TABLE 10: GROUPING OF POTENTIAL POLLUTANTS of Concern (POCs) by fate during stormwater treatment

Pollutant	Check Project Specific POCs	Coarse Sediment and Trash	Pollutants that tend to associate with fine particles during treatment	Pollutants that tend to be dissolved following treatment
Sediment	✓	X	X	
Nutrients	✓		X	X
Heavy Metals	✓		X	
Organic Compounds	✓		X	
Trash & Debris	✓	X		
Oxygen Demanding	✓		X	
Bacteria	✓		X	
Oil & Grease	✓		X	
Pesticides	✓		X	

➢ Indicate the treatment facility(s) chosen for this project in the following table.

TABLE 11: GROUPS OF POLLUTANTS and relative effectiveness of treatment facilities

Pollutants of Concern	Bioretention Facilities (LID)	Settling Basins (Dry Ponds)	Wet Ponds and Constructed Wetlands	Infiltration Facilities or Practices (LID)	Media Filters	Higher-rate biofilters*	Higher-rate media filters*	Trash Racks & Hydro-dynamic Devices	Vegetated Swales
Coarse Sediment and Trash	High	High	High	High	High	High	High	High	High
Pollutants that tend to associate with fine particles during treatment	High	High	High	High	High	Medium	Medium	Low	Medium
Pollutants that tend to be dissolved following treatment	Medium	Low	Medium	High	Low	Low	Low	Low	Low

➢ Please check the box(s) that best describes the Treatment BMP(s) and/or LID BMP selected for this project.

TABLE 12: PROJECT LID AND TC-BMPS

Bioretention Facilites (LID)
☑ Bioretention area
☐ Flow-through Planter
☐ Cistern with Bioretention Facility
Settling Basins (Dry Ponds)
☐ Extended/dry detention basin with grass/vegetated lining
☐ Extended/dry detention basin with impervious lining
Infiltration Facilities or Practices (LID)
☐ Infiltration basin
☐ Dry well
☐ Infiltration trench
Wet Ponds and Constructed Wetlands
☐ Wet pond/basin (permanent pool)
☐ Constructed wetland
Vegetated Swales (LID[1])
☐ Vegetated Swale

Media Filters
☐ Austin Sand Filter
☐ Delaware Sand Filter
☐ Multi-Chambered Treatment Train (MCTT)
Higher-rate Biofilters
☐ Tree-pit-style unit
☐ Other_____
Higher-rate Media Filters
☐ Vault-based filtration unit with replaceable cartridges
☐ Other_____
Hydrodynamic Separator Systems
☐ Swirl Concentrator
☐ Cyclone Separator
Trash Racks
☐ Catch Basin Insert
☐ Catch Basin Insert w/ Hydrocarbon boom
☐ Other_____
Self-Treating or Self-Retaining Areas (LID)
☐ Pervious Pavements
☐ Vegetated Roofs
☐ Other_____

(1) Must be designed per SUSMP "Vegetated Swales" design criteria for LID credit (p. 65).

For design guidelines and calculations refer to Chapter 4 "Low Impact Development Design Guide" in the SUSMP. Please show all calculations and design sheets for all treatment facilities proposed in Attachment D.

➢ Create a Construction Plan SWMP Checklist for your project.

Instructions on how to fill out table

1. Number and list each measure or BMP you have specified in your SWMP in Columns 1 and Maintenance Category in Column 3 of the table. Leave Column 2 blank.

2. When you submit construction plans, duplicate the table (by photocopy or electronically). Now fill in Column 2, identifying the plan sheets where the BMPs are shown. List all plan sheets on which the BMP appears. This table must be shown on the front sheet of the grading and improvement plans.

Stormwater Treatment Control and LID BMP's			
Description / Type	Sheet	Maintenance Category	Revisions
BIORETENTION AREAS		1	
RIP RAP SUMPS		1	
GRAVEL DESILTING PADS		1	

* BMP's approved as part of Stormwater Management Plan (SWMP) dated xx/xx/xx on file with DPW. Any changes to the above BMP's will require SWMP revision and Plan Change approvals.

➢ Please describe why the chosen treatment BMP(s) was selected for this project. For projects utilizing a low performing BMP, please provide a feasibility analysis that demonstrates utilization of a treatment facility with a high or medium removal efficiency ranking is infeasible.

THE TREAMENT & LID BMPS WERE CHOSEN FOR THEIR HIGH REMOVAL EFFICIENCY FOR THE ANTICIPATED POLLUTANTS, RELATIVELY LOW COST, AND BECAUSE THEY CAN BE EASILY MAINTAINED BY INDIVIDUAL HOMEOWNERS.

A Treatment BMP must address runoff from developed areas. Please provide the post-construction water quality treatment volume or flow values for the selected project Treatment BMP(s). Guidelines for design calculations are located in Chapter 4 of the County SUSMP. Label outfalls on the BMP map. The Water Quality peak rate of discharge flow (Q_{WQ}) and the Water Quality storage volume (V_{WQ}) is dependent on the type of treatment BMP selected for the project.

Outfall	**Tributary Area (acres)**	**Q_{WQ} (cfs)**	**V_{WQ} (ft^3)**

SEE CALCULATIONS IN APPENDIX "D"

STEP 8

OPERATION AND MAINTENANCE

➢ Please check the box that best describes the maintenance mechanism(s) for this project.

TABLE 13: PROJECT BMP CATEGORY

CATEGORY	SELECTED		BMP Description
	YES	NO	
First	✓		BIORETENTION AREAS, RIP RAP SUMPS, GRAVEL DESILTING PADS
Second[1]		✓	
Third[2]		✓	
Fourth		✓	

Note:

1. A recorded maintenance agreement will be required.
2. Project will be required to establish or be included in a Stormwater Maintenance Assessment District for the long-term maintenance of treatment BMPs.

➢ Please list all individual LID and Treatment Control BMPs (TC-BMPs) incorporated into project. Please ensure the "BMP Identifier" is consistent with the legend in Attachment C "LID and/or TC-BMP Exhibit". Please attach the record plan sheets upon completion of project and amend the Major SWMP where appropriate. For each type of LID or TC-BMP provide an inspection sheet in Attachment F "Maintenance Plan".

TABLE 14: PROJECT SPECIFIC LID AND TC-BMPS

BMP Identifier*	LID or TC-BMP Type	BMP Pollutant of Concern Efficiency (H,M,L) – Table 11	Final Construction Date *(to be completed by County inspector)*	Final Construction Inspector Name *(to be completed by County inspector)*

* For location of BMP's, see approved Record Plan dated _XX/XX/XX_, plan (TYPE) sheet _(#)_.

➢ Responsible Party for Long-term Maintenance:

Identify the parties responsible for long-term maintenance of the BMPs identified above and Source Controls specified in Attachment B. Include the appropriate written agreement with the entities responsible for O&M in Attachment F. Please see Chapter 5 "Private Ownership and Maintenance" on page 94 of the County SUSMP for appropriate maintenance mechanisms.

Name:	THE FUTURE OWNERS OF THE LOTS TO BE CREATED
Company Name:	
Phone Number:	
Street Address:	
City/State/Zip:	
Email Address:	

➢ Funding Source:

Provide the funding source or sources for long-term operation and maintenance of each BMP identified above. By certifying the Major SWMP the applicant is certifying that the funding responsibilities have been addressed and will be transferred to future owners.

CATEGORY 1 - NO FUNDING REQUIRED

ATTACHMENTS

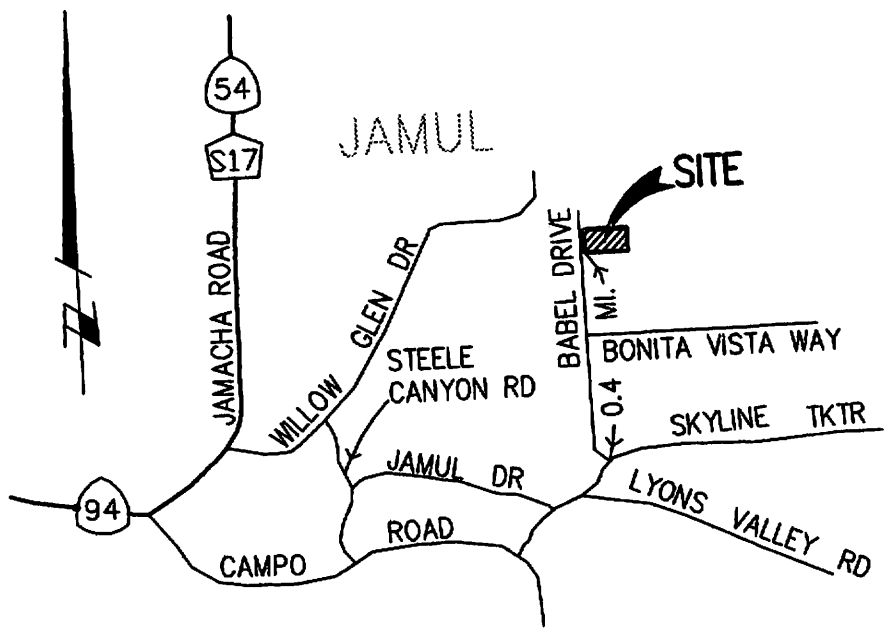
Please include the following attachments.

ATTACHMENT		COMPLETED	N/A
A	Project Location Map	✓	
B	Source Control Exhibit	✓	
C	LID and/or TC-BMP Exhibit	✓	
D	Drainage Management Area (DMA) Maps, Sizing Design Calculations and BMP/IMP Design Details	✓	
E	Geotechnical Certification Sheet		✓
F	Maintenance Plan	✓	
G	Tracking Report	✓	
H	Addendum		✓

Note: Attachments B and C may be combined.

ATTACHMENT A

Project Location Map



LOCATION MAP

NOT TO SCALE

T.B. 1273, A-6

AVOID ROOFING, GUTTERS AND TRIM MADE OF COPPER OR OTHER UN-PROTECTED METALS THAT MAY LEACH INTO RUNOFF.

PITCH PAVEMENTS TOWARD BIORETENTION

DOWNSPOUT TO SWALE.

REUSE OF NATIVE SOILS.

SMART IRRIGATION SYSTEMS.

(L.I.D. HANDBOOK 2.2.5)

DISTURB EXISTING SLOPES ONLY WHEN NECESSARY.

MINIMIZE CUT AND FILL AREAS TO REDUCE SLOPE LENGTHS.

PRESERVE WELL DRAINING SOILS AND SIGNIFICANT TREES. (L.I.D. HANDBOOK 2.2.1)

RESTRICT HEAVY CONSTRUCTION EQUIPMENT ACCESS TO PLANNED GREEN / OPEN SPACE AREAS.

RE-TILL SOILS COMPACTED BY CONSTRUCTION VEHICLES / EQUIPMENT.

COLLECT & RE-USE UPPER SOIL LAYERS OF DEVELOPMENT SITE CONTAINING ORGANIC MATERIALS. (L.I.D. HANDBOOK 2.2.4.)

SET-BACK DEVELOPMENT ENVELOPE FROM DRAINAGES (L.I.D. HANDBOOK 2.2.2)

BMP LEGEND

RIP RAP SUMP

BIORETENTION AREA

GRAVEL DESILTING PAD

PARCEL 1
GROSS 3.11 AC.
NET 2.46 AC.

PARCEL 2
GROSS 2.12 AC.
NET 2.12 AC.

PARCEL 3
GROSS 2.76 AC.
NET 2.69 AC.

PAD 1475.0

PAD 1535.0

PAD 1507.5

PROPOSED SEPTIC AREA (TYP.)

BIORETENTION AREA (TYP.) PER DETAIL

GRAVEL DESILTING PAD (TYP.) PER DETAIL

PROPOSED LIMITED BUILDING ZONE OPENSPACE

PROPOSED STEEP SLOPE OPEN SPACE EASEMENT

EARTHEN DITCH ABOVE CUT (TYP.)

RIP RAP (TYP.) PER DETAIL

RIP RAP SUMP AT PAD OUTLET
NOT TO SCALE

SECTION A-A

PLAN

EXISTING 40' PRIVATE ROAD EASEMENT

EXISTING 40' PRIVATE ROAD AND PUBLIC UTILITY EASEMENT

PROPOSED 20' PRIVATE ROAD EASEMENT

PROPOSED FIRE HYDRANT

PROPERTY BOUNDARY (TYP.)

BABBEL DRIVE

SLEEP WILLOW LANE

LOT 7

LOT 8

LOT 9

LOT B

MAP 15252

R.O.S. 7920

SEC. 35, T.M.

APPROXIMATE PAD/DRIVEWAY GRADING QUANTITIES:

EXCAVATION:	4900 C.Y.
EMBANKMENT:	4900 C.Y.
IMPORT/EXPORT:	0 C.Y.

MAXIMUM SLOPE HEIGHTS:
CUT: 15' @ 1 1/2:1
FILL: 15' @ 2:1

APPROXIMATE PRIVATE ROAD GRADING QUANTITIES:

EXCAVATION:	2850 C.Y.
EMBANKMENT:	2850 C.Y.
IMPORT/EXPORT:	0 C.Y.

MAXIMUM SLOPE HEIGHTS:

OWNER:
MUCHTAR SAJADY AND
FATIMA SAJADY
10482 MISSISSIPPI BLVD.
COON RAPIDS, MN 55433
(812) 716-3617

PROJECT ADDRESS:
3551 JAMUL VISTAS DRIVE
JAMUL, CA

APN:
519-094-16

LEGAL DESCRIPTION:
PARCEL 3 OF PARCEL MAP 7076

SOURCE OF EXISTING TOPOGRAPHY:
COUNTY 200 SCALE TOPOGRAPHIC
SURVEY SHEET 208-1815.
PHOTOGRAPHY DATED: MAY 1981

PREPARED BY:
CREW ENGINEERING AND SURVEYING
5725 KEARNY VILLA ROAD, STE. "D"
SAN DIEGO, CA. 92123
(858) 571-0555

RONALD C. ASHMAN
RCE 34300 EXPIRES: SEPT. 30, 2011

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

JAMUL
SITE
JAMACHA ROAD
WILLOW GLEN DR
STEELE CANYON ROAD
BABBEL DRIVE
BONITA VISTA WAY
SKYLINE TKTR
JAMUL DR.
CAMPO ROAD
LYONS VALLEY RD
94
VICINITY MAP
NOT TO SCALE
T.B.; 1273, A-6

Ⓐ EXISTING 40' I.O.D. GRANTED TO THE COUNTY OF SAN DIEGO PER DOC. 78-087975; REC. MARCH 6, 1978 OF O.R.

Ⓑ EXIST. 40' ROAD AND UTILITY EASEMENT PER INST. 86-141647; REC. APRIL 11, 1986 OF O.R.

Ⓒ EXIST. 40' OTAY WATER EASEMENT PER INST. 88-307582; REC. JUNE 27, 1988 OF O.R.

Ⓓ EXIST. 40' SDG&E PUBLIC UTILITY EASEMENT PER INST. 1991-0089779; REC. MARCH 1, 1991 OF O.R.

Ⓔ EXIST. 40' PACIFIC BELL PUBLIC UTILITY EASEMENT PER INST. 90-536036; REC. NOVEMBER 29, 1990 OF O.R.

⚠1 OPEN SPACE EASEMENT GRANTED TO THE COUNTY OF SAN DIEGO PER DOC. NO. 2005-0858579, REC. OCTOBER 4, 2005.

⚠2 FIRE CLEARING EASEMENT GRANTED TO THE COUNTY OF SAN DIEGO PER DOC. NO. 2005-0868580, REC. OCTOBER 4, 2005.

⚠3 FIRE CLEARING EASEMENT GRANTED TO THE COUNTY OF SAN DIEGO PER PARCEL MAP 18704.

⚠4 L.O.D. IN FAVOR OF SAN DIEGO COUNTY FOR FUEL BREAK RECORDED MAY 3, 1973 AS FILE NO. 73-004818 OF OFFICIAL RECORDS.

NOTE:
THERE ARE NO STRUCTURES ON ADJACENT LAND WITHIN 15' OF THE PROJECT.

TYPICAL PAD DRAINAGE DETAIL
NO SCALE
NOTE:
NO ROOF DRAIN PIPING OFF PAD. ALLOW WATER TO OVERLAND FLOW FROM DOWNSPOUT/SPLASHBLOCK THROUGH YARD.

BIORETENTION AREA
NO SCALE

SECTION A-A

REVISIONS	BY
⚠1 MOVE CONCEPT BLDG. PAD 2	TJL 2/00

DATE: 11/01/00
SCALE: 1"=40'
DRAWN: S.G.
APPROVED: R.A.
JOB: 1342
SHEET: 1 OF 1

ATTACHMENT B/C
SOURCE CONTROL, LID AND TC BMP EXHIBIT

OCT 29 2010

J.N. 1342

ATTACHMENT D
DRAINAGE MANAGEMENT AREA (DMA) MAP

REVISIONS	BY
1 MOVE CONCEPT BLDG. PCL. 2	TK 2/08

P.M. 7076
PARCEL A

S.E. 1/4, T.16S, N.W. 1/4, SEC. 35, R.1.E. S.B.M.

EXISTING 40' PRIVATE ROAD EASEMENT

BABEL DRIVE (PVT.)

LOT 8

LOT 7

SLEEP WILLOW LANE

PARCEL 1
GROSS 3.11 AC.
NET 2.46 AC.

PARCEL 2
GROSS 2.12 AC.
NET 2.12 AC.

PARCEL 3
GROSS 2.76 AC.
NET 2.69 AC.

PAD 1475.0

PAD 1505.0

PAD 1537.5

RIP RAP (TYP.) PER DETAIL

PROPOSED SEPTIC AREA (TYP.)

10 L.F. 18" CMP AND HEADWALL

EAST HYDRA DRAIN

PROPOSED PRIVATE ROAD (UTILITY EASEMENT)

PROPOSED 20' PRIVATE ROAD EASEMENT

16' MIN. PAVED

PROPOSED FIRE HYDRANT

BIORETENTION AREA

EARTHEN DITCH ABOVE CUT (TYP.)

PROPOSED LIMITED BUILDING ZONE OPEN SPACE

GRAVEL DESILTING PAD (TYP.) PER DETAIL

PROPOSED STEEP SLOPE OPEN SPACE EASEMENT

PROPERTY BOUNDARY (TYP.)

EXISTING 40' PRIVATE ROAD AND PUBLIC UTILITY EASEMENT

MAP 15252
LOT 9

P.M. 18704
PARCEL 1
PARCEL 2
PARCEL 3

DETAIL OF GRAVEL DESILTING PAD

RIP RAP SUMP AT PAD OUTLET
NOT TO SCALE

SECTION A-A

PLAN

LEGEND

- DMA NAME — A
- DMA BOUNDARY
- SELF-TREATING AREA
- LANDSCAPED AREA
- PAVED AREA
- ROOFTOP
- BIORETENTION AREA

APPROXIMATE PRIVATE ROAD GRADING QUANTITIES:

EXCAVATION:	2840 C.Y.
EMBANKMENT:	2830 C.Y.
IMPORT/EXPORT:	0 C.Y.

MAXIMUM SLOPE HEIGHTS:
CUT: 10' @ 1 1/2:1
FILL: 13' @ 2:1

OWNER:
MUCHTAR SAJADY AND
FATIMA SAJADY
10482 MISSISSIPPI BLVD.
COON RAPIDS, MN 55433
(612) 716-3617

PROJECT ADDRESS:
3551 JAMUL VISTAS DRIVE
JAMUL, CA

APN:
519-094-16

LEGAL DESCRIPTION:
PARCEL 3 OF PARCEL MAP 7076

SOURCE OF EXISTING TOPOGRAPHY:
COUNTY 200 SCALE TOPOGRAPHIC SURVEY SHEET 206-1815, PHOTOGRAPHY DATED: MAY 1981

PREPARED BY:
CREW ENGINEERING AND SURVEYING
5725 KEARNY VILLA ROAD, STE. "D"
SAN DIEGO, CA. 92123
(858) 571-0555

RONALD C. ASHMAN
RCE 34300 EXPIRES: SEPT. 30, 2011

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

VICINITY MAP
NOT TO SCALE
T.B.; 1273, A-6

JAMUL, SITE, JAMACHA ROAD, WILLOW GLEN DR, STEELE CANYON RD, DEHESA, BONITA VISTA WAY, SKYLINE TKTR, JAMUL DR, CAMPO ROAD, LYONS VALLEY RD, 94, S17

(A) EXISTING 40' I.O.D. GRANTED TO THE COUNTY OF SAN DIEGO PER DOC. 78-087975; REC. MARCH 6, 1978 OF O.R.

(B) EXIST. 40' ROAD AND UTILITY EASEMENT PER INST. 86-141647; REC. APRIL 11, 1986 OF O.R.

(C) EXIST. 40' OTAY WATER EASEMENT PER INST. 88-307582; REC. JUNE 27, 1988 OF O.R.

(D) EXIST. 40' SDG&E PUBLIC UTILITY EASEMENT PER INST. 1991-0089779; REC. MARCH 1, 1991 OF O.R.

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3. FIRE CLEARING EASEMENT GRANTED TO THE COUNTY OF SAN DIEGO PER PARCEL MAP 18704.
4. I.O.D. IN FAVOR OF SAN DIEGO COUNTY FOR FUEL BREAK RECORDED MAY 3, 1973 AS FILE NO. 73-004818 OF OFFICIAL RECORDS.

NOTE:
THERE ARE NO STRUCTURES ON ADJACENT LAND WITHIN 15' OF THE PROJECT.

TYPICAL PAD DRAINAGE DETAIL
NO SCALE

BIORETENTION AREA
NO SCALE

SECTION A-A

OCT 29 2010

DATE:	11/01/06
SCALE:	1"=40'
DRAWN:	S.G.
APPROVED:	R.A.
JOB:	1342
SHEET:	1 OF 1

J.N. 1342

ATTACHMENT D

SIZING DESIGN CALCULATIONS

DMA NAME	DMA AREA (S.F.)	POST-PROJECT SURFACE TYPE	DMA RUNOFF FACTOR	DMA AREA x RUNOFF FACTOR	SOIL GROUP	IMP NAME
A	1248	ROOFTOPS	1.0	1248	B	BIORETENTION AREA
	0	STREET/ DRIVEWAYS	1.0	0		
	8000	LANDSCAPING/ TURF	0.1	800	IMP SIZING FACTOR	MINIMUM AREA (S.F.) / PROPOSED AREA (S.F.)
		TOTAL		2048	0.04	82 / 82

DMA NAME	DMA AREA (S.F.)	POST-PROJECT SURFACE TYPE	DMA RUNOFF FACTOR	DMA AREA x RUNOFF FACTOR	SOIL GROUP	IMP NAME
B	2672	ROOFTOPS	1.0	2672	B	BIORETENTION AREA
	368	STREET/ DRIVEWAYS	1.0	368		
	2528	LANDSCAPING/ TURF	0.1	253	IMP SIZING FACTOR	MINIMUM AREA (S.F.) / PROPOSED AREA (S.F.)
		TOTAL		3293	0.04	132 / 132

DMA NAME	DMA AREA (S.F.)	POST-PROJECT SURFACE TYPE	DMA RUNOFF FACTOR	DMA AREA x RUNOFF FACTOR	SOIL GROUP	IMP NAME
C	0	ROOFTOPS	1.0	0	B	BIORETENTION AREA
	2784	STREET/ DRIVEWAYS	1.0	2784		
	0	LANDSCAPING/ TURF	0.1	0	IMP SIZING FACTOR	MINIMUM AREA (S.F.) / PROPOSED AREA (S.F.)
		TOTAL		2784	0.04	111 / 111

DMA NAME	DMA AREA (S.F.)	POST-PROJECT SURFACE TYPE	DMA RUNOFF FACTOR	DMA AREA x RUNOFF FACTOR	SOIL GROUP	IMP NAME
D	2448	ROOFTOPS	1.0	2448	B	BIORETENTION AREA
	0	STREET/ DRIVEWAYS	1.0	0		
	6832	LANDSCAPING/ TURF	0.1	683	IMP SIZING FACTOR	MINIMUM AREA (S.F.) / PROPOSED AREA (S.F.)
		TOTAL		3131	0.04	125 / 125

DMA NAME	DMA AREA (S.F.)	POST-PROJECT SURFACE TYPE	DMA RUNOFF FACTOR	DMA AREA x RUNOFF FACTOR	SOIL GROUP	IMP NAME
E	1744	ROOFTOPS	1.0	1744	B	BIORETENTION AREA
	1312	STREET/ DRIVEWAYS	1.0	1312		
	2320	LANDSCAPING/ TURF	0.1	232	IMP SIZING FACTOR	MINIMUM AREA (S.F.) / PROPOSED AREA (S.F.)
		TOTAL		3288	0.04	132 / 132

ATTACHMENT D
SIZING DESIGN CALCULATIONS

DMA NAME	DMA AREA (S.F.)	POST-PROJECT SURFACE TYPE	DMA RUNOFF FACTOR	DMA AREA x RUNOFF FACTOR	SOIL GROUP	IMP NAME		
F	0	ROOFTOPS	1.0	0	B/C	BIORETENTION AREA		
	7120	STREET/ DRIVEWAYS	1.0	7120				
	5280	LANDSCAPING/ TURF	0.1	528	IMP SIZING FACTOR	MINIMUM AREA (S.F.)	PROPOSED AREA (S.F.)	
		TOTAL		7648	0.04	306	306	

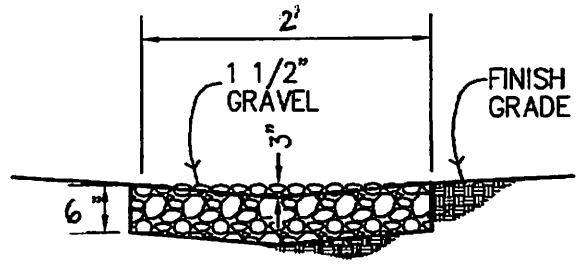
DMA NAME	DMA AREA (S.F.)	POST-PROJECT SURFACE TYPE	DMA RUNOFF FACTOR	DMA AREA x RUNOFF FACTOR	SOIL GROUP	IMP NAME		
G	1952	ROOFTOPS	1.0	1952	B	BIORETENTION AREA		
	0	STREET/ DRIVEWAYS	1.0	0				
	4224	LANDSCAPING/ TURF	0.1	422	IMP SIZING FACTOR	MINIMUM AREA (S.F.)	PROPOSED AREA (S.F.)	
		TOTAL		2374	0.04	95	95	

DMA NAME	DMA AREA (S.F.)	POST-PROJECT SURFACE TYPE	DMA RUNOFF FACTOR	DMA AREA x RUNOFF FACTOR	SOIL GROUP	IMP NAME		
H	1856	ROOFTOPS	1.0	1856	C	BIORETENTION AREA		
	2816	STREET/ DRIVEWAYS	1.0	2816				
	1776	LANDSCAPING/ TURF	0.1	178	IMP SIZING FACTOR	MINIMUM AREA (S.F.)	PROPOSED AREA (S.F.)	
		TOTAL		4850	0.04	194	194	

DMA NAME	DMA AREA (S.F.)	POST-PROJECT SURFACE TYPE	DMA RUNOFF FACTOR	DMA AREA x RUNOFF FACTOR	SOIL GROUP	IMP NAME		
I	0	ROOFTOPS	1.0	0		BIORETENTION AREA		
	2800	STREET/ DRIVEWAYS	1.0	2800				
	1920	LANDSCAPING/ TURF	0.1	192	IMP SIZING FACTOR	MINIMUM AREA (S.F.)	PROPOSED AREA (S.F.)	
		TOTAL		2992	0.04	120	120	

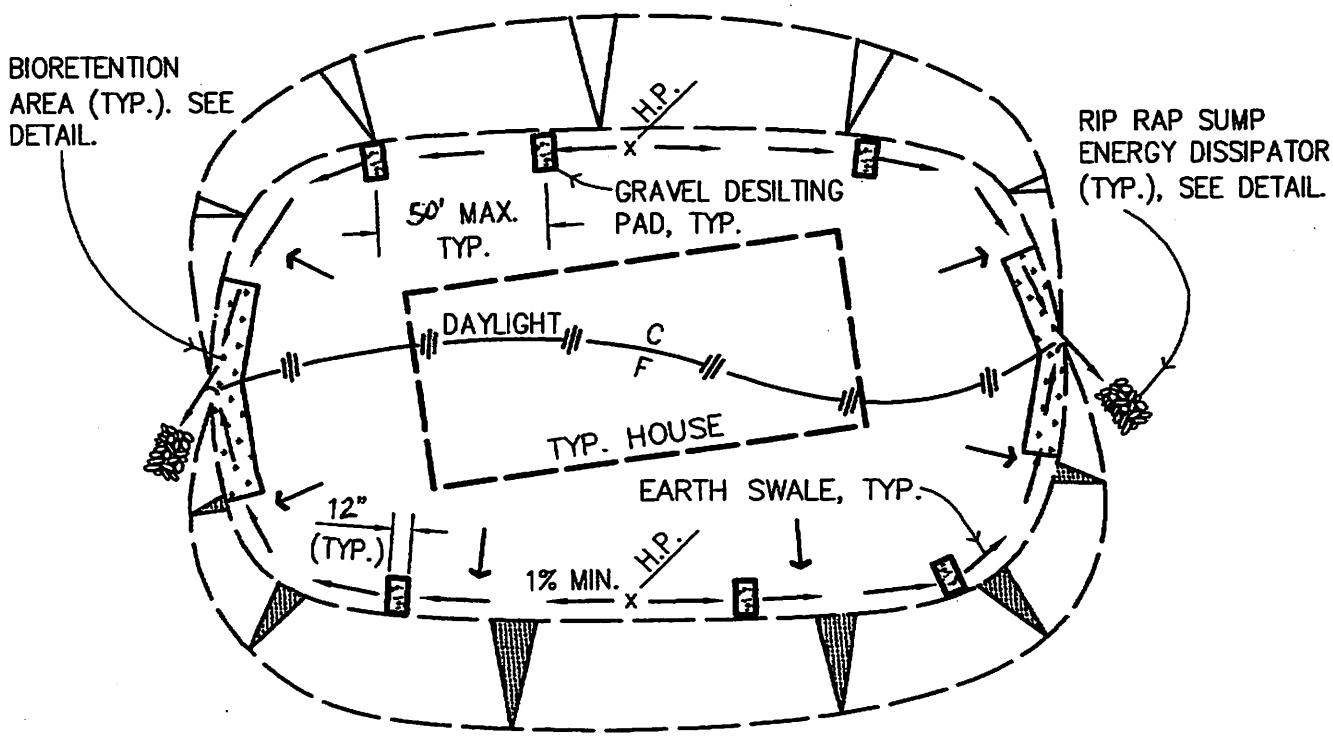
DMA NAME	DMA AREA (S.F.)	POST-PROJECT SURFACE TYPE	DMA RUNOFF FACTOR	DMA AREA x RUNOFF FACTOR	SOIL GROUP	IMP NAME		
J	0	ROOFTOPS	1.0	0		EXIST. BIO-SWALE		
	9680	STREET/ DRIVEWAYS	1.0	9680				
	1952	LANDSCAPING/ TURF	0.1	195	IMP SIZING FACTOR	MINIMUM AREA (S.F.)	PROPOSED AREA (S.F.)	
		TOTAL		9875	0.04	395	395	

ATTACHMENT D



NOTE:
INSTALL GRAVEL DESILTING PADS IN EARTH SWALE AT 50' MAX. O.C.

DETAIL OF GRAVEL DESILTING PAD

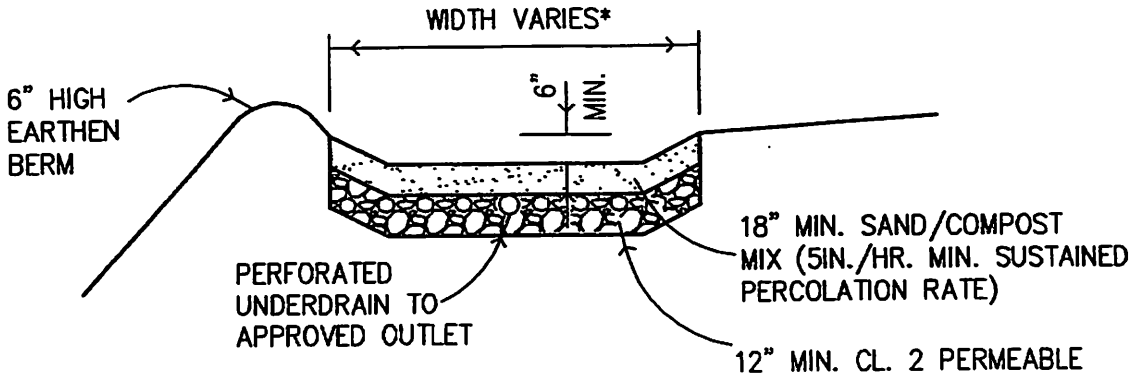


NOTE:
NO ROOF DRAIN PIPING OFF PAD. ALLOW WATER TO OVERLAND FLOW FROM DOWNSPOUT/SPLASHBLOCK THROUGH YARD.

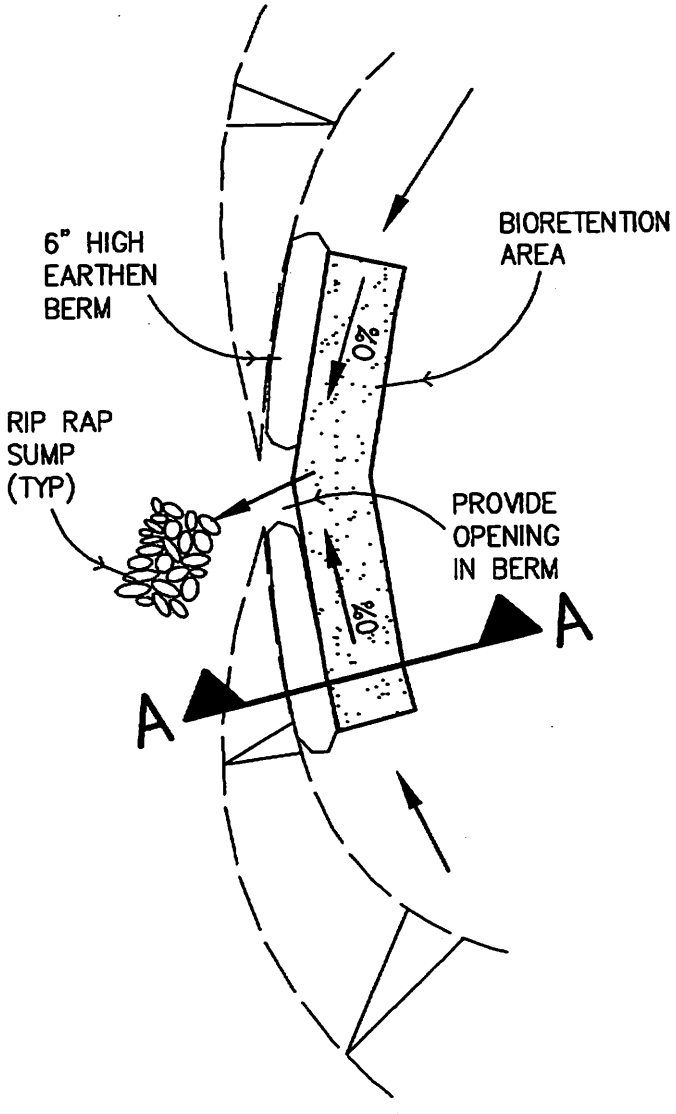
TYPICAL PAD DRAINAGE DETAIL

NO SCALE

ATTACHMENT D



SECTION A–A

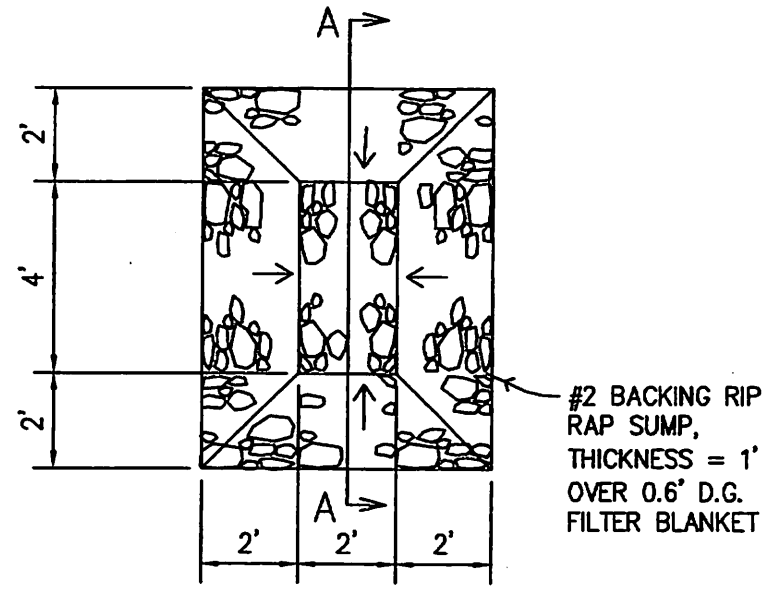


*NOTE:
THE LENGTH & WIDTH OF THE BIORETENTION AREA SHALL BE ESTABLISHED TO PROVIDE THE REQUIRED MINIMUM AREA AS SHOWN ON THE SIZING DESIGN CALCULATIONS.

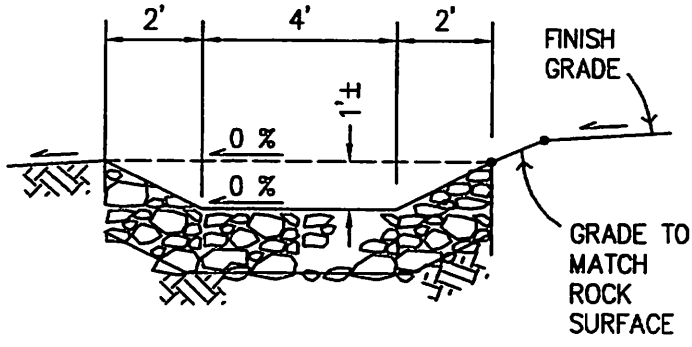
BIORETENTION AREA

NO SCALE

ATTACHMENT D



PLAN



SECTION A–A

RIP RAP SUMP AT PAD OUTLET

NOT TO SCALE

ATTACHMENT F

Maintenance Responsibility

The BMPs for this project have been chosen and designed to require the minimum maintenance after the project construction is complete. The individual property owners will be responsible for the BMPs situated on their property. Permit enforcement activities by the County of San Diego and the RWQCB will provide assurance that ongoing maintenance will be performed in perpetuity.

Maintenance Activities per BMPs

Over time the at-grade gravel filtering pads may become ineffective due to filling with trapped sediment. At that time the pads should be replaced by the installation of an additional pad adjacent to the ineffective pad. Anticipated replacement frequency is replacement every 5 years. Estimated replacement cost $100.00 per pad or $500.00 per lot.

Vegetative cover on the building sites needed for soil stabilization will be maintained by the individual homeowners. The vegetation in the bioretention areas and graded swales will be maintained by the individual homeowners in the normal course of landscape maintenance for their lot. The cost of maintenance if contracted separately could be approximately $1000.00 per year per lot. Vegetation in the natural swales will remain in its natural condition.

Rip rap sump energy dissipaters should be inspected and maintained on a yearly basis along with the rest of the private road and drainage system. Debris and excess sediment accumulation should be removed yearly before the rainy season and after every major storm event. Design service life of the private drainage system is 25 years. The energy dissipaters may need replacement at the same time as the other improved portions of the storm drain system. Estimated yearly maintenance cost is $100 per dissipater. Estimated replacement cost for the dissipaters on site is $15,000.00. All estimates are current dollars and may change with inflation or other economic factors.

ATTACHMENT G

Tracking Report

COUNTY OF SAN DIEGO
DEPARTMENT OF PUBLIC WORKS
POST-CONSTRUCTION TRACKING AND
INVENTORY REPORT

General Project Information

Permit Number TPM 21069 SWMP Category (Major/Minor) MAJOR
Location / Address BABEL DRIVE, JAMUL AREA
Engineer of Work: THOMAS H. KOERNER State Registration Number: 65317
Company Name: CREW ENGINEERING AND SURVEYING
Address: 5725 KEARNY VILLA ROAD, STE. D
Email Address: TKOERNER@KMENGINEERS.COM
Phone Number: (858) 571-0555

Priority Development Project – Step 1: _____

Percent Impervious Before Construction: % 1.25
Percent Impervious After Construction: % 11.0

Project Disturbed Area: 2.13 Acres

Hydromodification Management – Step 3:
Yes ☐ or No ☑

Primary or Secondary Pollutants of Concerns – Step 4 *(check all that apply)*
- ☑ Sediment
- ☑ Nutrients
- ☑ Organic Compounds
- ☑ Bacteria and Viruses
- ☑ Trash and Debris
- ☑ Oxygen Demanding Substances
- ☑ Oil and Grease
- ☑ Pesticides

Project Specific Site Design, LID and Source Control BMPs

All selected Site Layout Strategies, LID, and Source Control BMPs must be shown on the Plan.

Site Layout Strategies – Step 5 *(check all that apply)*
- ☑ Limitation of Development Envelope
- ☐ Minimization of imperviousness
- ☐ Setbacks from creeks, wetlands, and riparian habitats
- ☑ Preservation of Natural Drainages
- ☐ Using drainage as a design element

Disperse Runoff from Impervious Surfaces to Pervious – Step 5 *(check all that apply)*
- ☐ Street and Road Design
- ☑ Driveway, Sidewalk, Bikepath Design
- ☐ Landscape Design
- ☐ Parking Lot Design
- ☐ Building Design
- ☑ Direct Runoff to Treatment BMP(s)

Source BMPs – Step 6 *(check all that apply)*

- ☐ Stormdrain Signage and Stenciling
- ☐ Trash Storage Areas
- ☐ Private Road Drainage System
- ☐ Dock Areas
- ☐ Vehicle Wash Areas
- ☐ Equipment Wash Areas
- ☐ Fueling Areas
- ☐ Outdoor Storage Areas
- ☑ Efficient Landscape Irrigation Design
- ☐ Residential Driveways & Guest Parking
- ☐ Maintenance Bays
- ☐ Outdoor Processing Areas
- ☐ Parking Areas

Post-construction Treatment Control BMP Information

Responsible Party for Maintenance – Step 8:
Name _____ Phone Number (___) _____
Street Number _____ Street Name _____
City _____ State _____ Zip _____
Email Address: _____

Project Maintenance Category (1, 2, 3 or 4): ___

Project Specific Treatment Control BMPs

BMP Identifier*	BMP Type	BMP Pollutant of Concern Efficiency (H,M,L) – Table 11	Final Construction Date *(to be completed by County inspector)*	Final Construction Inspector Name *(to be completed by County inspector)*

* For location of BMP's, see approved Record Plan dated _____, plan sheet ____.

Record Plan Certification

I certify that the above items for this project are in substantial conformance with the approved plans. Yes ☐ or No ☐

Please sign your name and seal. [SEAL]

Print Name: _____

Sign Name: _____